



California Energy Commission

Pre-Application Workshop

Natural Gas Engine-Hybrid Electric Research and Development

PON-13-506

Energy Research and Development Division
California Energy Commission
March 14, 2014



Agenda

- **Welcome and Introduction**
- **Natural Gas Program – Transportation Research**
- **PON Background**
- **Overview of Grant Solicitation Application Manual**
- **Questions and Answers**



Housekeeping

- ...In case of fire
- ...Local facilities
- ...Muting of WebEx during presentation
- ...Q&A protocol



Transportation Research Goals

The goals of transportation-related projects are to:

- Reduce carbon emissions
- Decrease petroleum usage
- Improve natural gas and electricity infrastructure capacity, reliability, and sustainability
- Improve air quality
- Increase the use of renewable natural gas for transportation



Policy Drivers

The following legislation and policy guide the Transportation subject area on meeting California's challenges:

- **Senate Bill 1250:** *Enabled PIER funds to be used for advanced transportation technologies that:*
 - *Reduce air pollution and GHG emissions beyond applicable standards.*
 - *Benefit electricity and natural gas ratepayers.*
- **State Alternative Fuels Plan:** *Presents strategies and actions California must take to increase the use of alternative transportation fuels.*
- **ZEV Mandate:** *Requiring automakers to produce a combination of zero emission and partial zero emission vehicles to meet air quality goals.*
- **Assembly Bill 32:** *Calls for approximately 36% of the state's 2020 GHG reduction targets to come from the transportation sector.*



General Approach to Natural Gas Vehicle R&D

- Natural Gas Vehicle Research Roadmap recommends RD&D key initiatives including:
 - *Engine Development and Vehicle Integration*
 - *Fueling Infrastructure and On-board Storage*
 - *Technical & Strategic Studies and Exchanges*



Purpose of this Solicitation

- Research and development of advanced natural gas engine-hybrid electric concepts for application in light heavy-duty to heavy-duty vehicles that are operated in fleets throughout California
- RDD&D is needed to:
 - Improve the efficiency of natural gas vehicles
 - Address Part Load
 - Minimize engine idling
 - Potential engine/fuel storage downsizing
 - Optimize the use of a natural gas hybrid-electric concept given the duty cycle or application



Research Guidance

- Natural Gas Vehicle Research Roadmap (Pub# CEC-500-2008-044-F, <http://www.energy.ca.gov/2008publications/CEC-500-2008-044/CEC-500-2008-044-F.PDF>)
 - *Page 25: Develop, Demonstrate and Deploy Hybrid Natural Gas Heavy-Duty Vehicles*
 - *Page 25: Investigate the proper type of hybridization for a given application along with power management and power output.*



Eligible Projects

- Promising technologies that advance the performance, fuel efficiency, and competitiveness of natural gas engine hybrid-electric systems
- Advancements should address hybrid functionality and engine integration and optimizations as well as overall engine efficiency.
- Proposals that demonstrate the economic and commercial viability of the natural gas hybrid-electric concepts are also encouraged.
- Eligible projects should seek to maximize realized benefits (i.e., a reduction in petroleum consumption and GHG emissions)

Additional information listed in Application Manual



Eligible Applicants

- Open solicitation seeking applications from public and private entities.
- Applicant must agree to use the version of the PIER Terms and Conditions that corresponds to its organization.
- Applicants are required to register and be in good standing with the California Secretary of State to enter into an agreement with the Energy Commission.
- Preference will be given to California-Based Entities (CBEs) when making rewards (see Attachment 9)



Funding Information

- Up to \$2.7 million of Research and Development Natural Gas funding is available under this solicitation.

Match Funding Requirements:

- Match funding is not required, however it will be considered under the scoring criteria.
- Match funding includes:
 - Cash and/or in-kind contributions
 - In-kind contributions can include but are not limited to: donated labor hours, equipment, facilities, and most property.



California Energy Commission

Schedule

ACTIVITY	ACTION DATE
PON Release	February 26, 2014
Pre-Application Workshop*	March 14, 2014
Deadline for Written Questions*	March 14, 2014
Distribute Questions/Answers and Addenda (if any) to PON	March 28, 2014
Deadline to Submit Applications by 3:00 p.m.*	April 18, 2014
Anticipated Notice of Proposed Award Posting Date	May 2014
Clarification Interviews	May 2014
Anticipated Commission Business Meeting Date	June 2014
Anticipated Agreement Start Date	June 2014
Agreement Termination Date	June 2017



Selection and Award Process

- Based on the applications submitted, a scoring committee will score the projects using the scoring criteria described in Section IV of the Application Manual.
- The scoring committee may conduct optional interviews for clarification purposes.
- A minimum score of 70 (out of 100) is required to be eligible for funding.
- Project(s) will be recommended for funding starting with the highest ranked project meeting the minimum required score in each research topic area until all funds are exhausted.



California Based Entities (CBEs)

The California Energy Commission's Public Interest Energy Research (PIER) Program will give a priority to "California based entities" (CBEs) when making awards (Public Resource Code 25620.5(h)).

- An entity must meet all of the following requirements to be considered a CBE:
 - Either has its headquarters **OR** an office in California **AND**
 - Substantially manufactures the product **OR** substantially performs the research within California that is the subject of the award.

Please Refer to Attachment 9



Proposal Requirements

- Application form with original signature (Attachment 1)
- Executive summary
 - Project description, objectives, and goals
- Fact Sheet
- Project narrative
 - Identify research topic that has been chosen
 - Addresses each of the evaluation criteria
 - Discussion on how the project will advance science and technology without duplicating existing work, and will provide clear benefits to natural gas ratepayers
- Project team description
- Scope of work with a task-by-task description of for each project.
 - See Work Statement Template (Attachment 6)



Application Requirements Cont'd

- References and Work Products
- Commitment and Support letters (if applicable)
- Schedule
 - All work must be completed by **June 30, 2017**
- Budget Workbook (Attachment 7)
 - Must be filled out completely and accurately
- Prevailing wage compliance certificate (if applicable)
- CEQA worksheet
- CBE Questionnaire (if applicable)
- Contact List



Application Guidelines

- One (1) original and six (6) copies of the proposal and a CD or USB
- Proposals should be typed using a standard 11-point Arial font and single spaced
- The original and copies must be labeled “Program Opportunity Notice PON-13-506” and include the title of the application and applicants name
- Proposals shall **NOT** contain confidential information



Grounds for Rejection

- CEC reserves the right to reject any application and/or to cancel an award for any of the following circumstances:
 - It is received after 3:00 pm on April 18, 2014
 - It contains false or intentionally misleading statements or references
 - It is intended to erroneously and fallaciously mislead the State in its evaluation of the application
 - It does not meet all Stage One screening criteria
 - It contains confidential information
 - The Applicant does not agree to the Terms and Conditions
 - All required documents are completed
 - Does not meet format requirements
 - The proposal proposes a project that has already been addressed or is being addressed



Grounds for Rejection (Cont'd)

- It is unsigned
- The firm or individual has submitted multiple applications for each task
- It does not literally comply or contains caveats that conflict with the PON and the variation or deviation is not material, or it is otherwise non-responsive
- The applicant has previously completed a PIER agreement and is not compliant with repaying royalties (if applicable)
- The applicant has received unsatisfactory evaluations from the Energy Commission or another California state agency.
- The applicant is a business entity that is not in good standing with the California Secretary of State.
- The applicant has not demonstrated that it has the financial capability to complete the project.



Attachments

1. Application Form/Cover Page
2. Executive Summary
3. Fact Sheet
4. Project Narrative
5. Project Team
6. Scope of Work
7. Budget Forms
8. CEQA Compliance Form (requires signature)
9. CBE Form
10. References and Work Product
11. Commitment and Support Letters (requires signature)
12. Contact List
13. Instructions for Energy End Use Electricity Demand GHG Emissions Reference Calculation



Scoring Criteria

Technical Merit and Need	20
Technical Approach	20
Impacts and Benefits for California	15
Team Qualifications, Capabilities and Resources	10
Budget and Cost Effectiveness	10
Match Funds	15
Ratio of Direct Labor and Fringe Benefit Rates to Loaded Labor Rates	10
Total Points	100
Preference Points for California-Based Entities (awarded only to proposals with a minimum passing score of 70)	5



Solicitation Documents

Solicitation documents for Natural Gas Engine-Hybrid Electric Research and Development:

<http://www.energy.ca.gov/contracts/pier.html#PON-13-506>

- **Please make sure to read all addendums.**



Addendum 1

1. Page 8 of 24, in the Eligible Projects Section - 1. Technologies and Benefits, we list “Ability to achieve emissions targets of: (1) 0.01 g/bhp-hr NO_x; (2) 0.01 g/bhp-hr PM; (3) 0.14 g/bhp-hr HC; and (4) 15.5 g/bhp-hr CO or lower, as determined by the heavy-duty engine FTP” as a “must demonstrate”, this should be move to “should” which is the list below.
2. Page 9 of 24, in the Eligible Projects Section - 1. Technologies and Benefits, we list “Meet or exceed California Air Resources Board (CARB) heavy-duty on-road emission certification requirements for 2016.” This should be moved to the list above which is a “must demonstrate.”
3. Page 9 of 24,in the Project Term section, we said “All work must be completed within 36 to 48 months of the project start date.” This will be changed to “...completed within 36 months...”



Questions and Answers

Written Questions are due:

March 14, 2014 by 5 p.m.

Please send all PON related questions to
Michael Poe, Grants Officer at:

Michael.Poe@energy.ca.gov



Thank You!

- Questions & Answers